

LISTING OF THE CLAIMS

In this Response, no amendments are made to the claims. Claims 19–29 were previously canceled and claims 3–7, 14–16, 19–29 and 36–38 were previously withdrawn, such that the status of the claims is as follows:

1. (Previously presented) A read/write head for a disk drive, the read/write head suitable for recording data in adjacent magnetic recording media, the adjacent magnetic recording media including a first layer for recording data and a second layer that is a soft underlayer (SUL) to return magnetic flux to the read/write head, the read/write head comprising:
 - a substrate;
 - a trailing edge with respect to the adjacent magnetic recording media in rotation;
 - a write element comprising a write pole tip, formed adjacent the substrate, the write element configured to record data in the adjacent magnetic recording media;
 - a read element comprising a magnetoresistive sensor formed adjacent the write element, on an opposite side of the write element from the substrate; and
 - a shield located between the write element and the magnetoresistive sensor;
 - wherein a distance between the write pole tip and the substrate is less than a distance between the shield and the substrate; and
 - wherein the magnetoresistive sensor is located between the write pole tip and the trailing edge of the read/write head.
2. (Original) A read/write head as defined in claim 1, wherein the write element includes a write coil that coils around another portion of the write element.
3. (Withdrawn) A read/write head as defined in claim 1, wherein the read element includes a pair of read shields and the write element includes a write pole that is magnetically connected to one of the pair of read shields.

4. (Withdrawn) A read/write head as defined in claim 3, wherein the write element includes a write coil that coils around a portion of the write element that connects to the one of the pair of read shields.
5. (Withdrawn) A read/write head as defined in claim 4, wherein the write coil is a pancake coil.
6. (Withdrawn) A read/write head as defined in claim 4, wherein there are no other write coils.
7. (Withdrawn) A read/write head as defined in claim 3, wherein the distance from the write pole to the soft underlayer falls within a range from approximately equal to half the distance from the nearest read shield to the write pole to approximately twice the distance from the nearest read shield to the write pole.
8. (Original) A read/write head as defined in claim 1, wherein the read element includes a pair of read shields and the write element includes a write pole and a write shield that is magnetically connected to the write pole.
9. (Original) A read/write head as defined in claim 8, wherein the write element includes a coil that coils around a portion of the write element that connects the write shield to the write pole.
10. (Original) A read/write head as defined in claim 8, wherein the write coil is a pancake coil.
11. (Original) A read/write head as defined in claim 8, wherein there are no other write coils.
12. (Previously presented) A read/write head for a disk drive, the read/write head suitable for recording data in adjacent magnetic recording media, the adjacent magnetic recording media including a first layer for recording data and a second layer that is a soft underlayer (SUL) to return magnetic flux to the read/write head, the read/write head comprising:
 - a substrate;
 - a trailing edge with respect to the adjacent magnetic recording media in rotation;

a write element formed adjacent the substrate, the write element configured to record data in the adjacent magnetic recording media; and

a read element formed adjacent the write element, on an opposite side of the write element from the substrate;

wherein the read element includes a pair of read shields and one of the pair of read shields is magnetically connected to the write element;

wherein the write element includes a write pole and a write shield that is magnetically connected to the write pole;

wherein a distance from the write pole to the soft underlayer falls within a range from approximately equal to a distance from the write shield to the write pole to approximately twice the distance from the write shield to the write pole; and

wherein the read element is located between the write pole and the trailing edge of the read/write head.

13. (Previously presented) A read/write head as defined in claim 1, wherein the write element is formed directly on the substrate.

14. (Withdrawn) A read/write head as defined in claim 1, further including a layer of material between the write element and the substrate.

15. (Withdrawn) A read/write head as defined in claim 14, wherein the layer of material is an electrically conductive material.

16. (Withdrawn) A read/write head as defined in claim 14, wherein the layer of material is an electrically insulating material.

17. (Previously presented) A read/write head as defined in claim 1, wherein the adjacent magnetic recording media is caused to move relative to the read/write head in a direction that causes a given portion of the media to pass first by the write pole and then by the magnetoresistive sensor.

18. (Previously presented) A read/write head as defined in claim 1, wherein the read/write head is configured to perpendicularly record data in the first layer of the adjacent magnetic recording media.

19–29. (Canceled)

30. (Previously presented) A read/write head for a disk drive, the read/write head suitable for recording data in adjacent magnetic recording media, the adjacent magnetic recording media including a first layer for recording data and a second layer that is a soft underlayer (SUL) to return magnetic flux to the read/write head, the read/write head comprising:

- a substrate;
- a trailing edge with respect to the adjacent magnetic recording media in rotation;
- a write pole formed proximate to the substrate, the write pole having a write pole tip and a magnetic via section;
- a write shield formed proximate to the write pole and located on an opposite side of the write pole from the substrate, the write shield magnetically connected to the magnetic via section of the write pole;
- a first read shield proximate to the write shield and located on an opposite side of the write shield from the substrate;
- a second read shield proximate to the first read shield and located on an opposite side of the first read shield from the write pole; and
- a magnetoresistive sensor located between the first and second read shields;
- wherein a distance between the write pole tip and the substrate is less than a distance between the write shield and the substrate, a distance between the first read shield and the substrate, and a distance between the second read shield and the substrate; and
- wherein the magnetoresistive sensor is located between the write pole tip and the trailing edge of the read/write head.

31. (Original) A read/write head as defined in claim 30, further including a write coil that coils around the magnetic via section.
32. (Original) A read/write head as defined in claim 31, wherein the write coil is a pancake coil.
33. (Original) A read/write head as defined in claim 31, wherein there are no other write coils.
34. (Previously presented) A read/write head for a disk drive, the read/write head suitable for recording data in adjacent magnetic recording media, the adjacent magnetic recording media including a first layer for recording data and a second layer that is a soft underlayer (SUL) to return magnetic flux to the read/write head, the read/write head comprising:
 - a substrate;
 - a trailing edge with respect to the adjacent magnetic recording media in rotation;
 - a write pole formed proximate to the substrate, the write pole having a magnetic via section;
 - a write shield formed proximate to the write pole and located on an opposite side of the write pole from the substrate, the write shield magnetically connected to the magnetic via section of the write pole;
 - a first read shield proximate to the write shield and located on an opposite side of the write shield from the substrate;
 - a second read shield proximate to the first read shield and located on an opposite side of the first read shield from the write pole; and
 - a magnetoresistive sensor located between the first and second read shields; wherein the first read shield is magnetically connected to the write pole; wherein a distance from the write pole to the soft underlayer falls within a range from approximately equal to half a distance from the write shield to the write pole to approximately twice the distance from the write shield to the write pole; and

wherein the magnetoresistive sensor is located between the write pole and the trailing edge of the read/write head.

35. (Original) A read/write head as defined in claim 30, wherein the write pole is formed directly on the substrate.

36. (Withdrawn) A read/write head as defined in claim 30, further including a layer of material between the write pole and the substrate.

37. (Withdrawn) A read/write head as defined in claim 36, wherein the layer of material is an electrically conductive material.

38. (Withdrawn) A read/write head as defined in claim 36, wherein the layer of material is an electrically insulating material.

39. (Original) A read/write head as defined in claim 30, wherein the adjacent magnetic recording media is caused to move relative to the read/write head in a direction that causes a given portion of the media to pass first by the write pole and then by the magnetoresistive sensor.

40. (Original) A read/write head as defined in claim 30, wherein the head is configured to perpendicularly record data in the first layer of the adjacent magnetic recording media.

41. (Previously presented) A read/write head as defined in claim 1, wherein a single uniform layer of insulating material separates the write element and the read element.

42. (Previously presented) A read/write head as defined in claim 13, wherein a region of insulating material separates a tip of the write pole from the substrate.